# Extron® Electronics

INTERFACING, SWITCHING AND DISTRIBUTION

# User's Manual

## *SW2 VGA DA2 AF R*

**2-Input, Dual-Output VGA and Audio Switcher**

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# Precautions

## Safety Instructions • English

**This symbol is intended to alert the user of important operating and maintenance (servicing) instructions in the literature provided with the equipment.**

**This symbol is intended to alert the user of the presence of uninsulated dangerous voltage within the product's enclosure that may present a risk of electric shock.**

### Caution

**Read Instructions** • Read and understand all safety and operating instructions before using the equipment.

**Retain Instructions** • The safety instructions should be kept for future reference.

**Follow Warnings** • Follow all warnings and instructions marked on the equipment or in the user information.

**Avoid Attachments** • Do not use tools or attachments that are not recommended by the equipment manufacturer because they may be hazardous.

## Consignes de Sécurité • Français

**Ce symbole sert à avertir l'utilisateur que la documentation fournie avec le matériel contient des instructions importantes concernant l'exploitation et la maintenance (réparation).**

**Ce symbole sert à avertir l'utilisateur de la présence dans le boîtier de l'appareil de tensions dangereuses non isolées posant des risques d'électrocution.**

### Attention

**Lire les instructions**• Prendre connaissance de toutes les consignes de sécurité et d'exploitation avant d'utiliser le matériel.

**Conserver les instructions**• Ranger les consignes de sécurité afin de pouvoir les consulter à l'avenir.

**Respecter les avertissements** • Observer tous les avertissements et consignes marqués sur le matériel ou présentés dans la documentation utilisateur.

**Eviter les pièces de fixation** • Ne pas utiliser de pièces de fixation ni d'outils non recommandés par le fabricant du matériel car cela risquerait de poser certains dangers.

## Sicherheitsanleitungen • Deutsch

**Dieses Symbol soll dem Benutzer in der im Lieferumfang enthaltenen Dokumentation besonders wichtige Hinweise zur Bedienung und Wartung (Instandhaltung) geben.**

**Dieses Symbol soll den Benutzer darauf aufmerksam machen, daß im Inneren des Gehäuses dieses Produktes gefährliche Spannungen, die nicht isoliert sind und die einen elektrischen Schock verursachen können, herrschen.**

### Achtung

**Lesen der Anleitungen** • Bevor Sie das Gerät zum ersten Mal verwenden, sollten Sie alle Sicherheits-und Bedienungsanleitungen genau durchlesen und verstehen.

**Aufbewahren der Anleitungen** • Die Hinweise zur elektrischen Sicherheit des Produktes sollten Sie aufbewahren, damit Sie im Bedarfsfall darauf zurückgreifen können.

**Befolgen der Warnhinweise** • Befolgen Sie alle Warnhinweise und Anleitungen auf dem Gerät oder in der Benutzerdokumentation.

**Keine Zusatzgeräte** • Verwenden Sie keine Werkzeuge oder Zusatzgeräte, die nicht ausdrücklich vom Hersteller empfohlen wurden, da diese eine Gefahrenquelle darstellen können.

## Instrucciones de seguridad • Español

**Este símbolo se utiliza para advertir al usuario sobre instrucciones importantes de operación y mantenimiento (o cambio de partes) que se desean destacar en el contenido de la documentación suministrada con los equipos.**

**Este símbolo se utiliza para advertir al usuario sobre la presencia de elementos con voltaje peligroso sin protección aislante, que puedan encontrarse dentro de la caja o alojamiento del producto, y que puedan representar riesgo de electrocución.**

### Precaucion

**Leer las instrucciones** • Leer y analizar todas las instrucciones de operación y seguridad, antes de usar el equipo.

**Conservar las instrucciones** • Conservar las instrucciones de seguridad para futura consulta.

**Obedecer las advertencias** • Todas las advertencias e instrucciones marcadas en el equipo o en la documentación del usuario, deben ser obedecidas.

**Evitar el uso de accesorios** • No usar herramientas o accesorios que no sean especificamente recomendados por el fabricante, ya que podrian implicar riesgos.

### Warning

**Power sources** • This equipment should be operated only from the power source indicated on the product. This equipment is intended to be used with a main power system with a grounded (neutral) conductor. The third (grounding) pin is a safety feature, do not attempt to bypass or disable it.

**Power disconnection** • To remove power from the equipment safely, remove all power cords from the rear of the equipment, or the desktop power module (if detachable), or from the power source receptacle (wall plug).

**Power cord protection** • Power cords should be routed so that they are not likely to be stepped on or pinched by items placed upon or against them.

**Servicing** • Refer all servicing to qualified service personnel. There are no user-serviceable parts inside. To prevent the risk of shock, do not attempt to service this equipment yourself because opening or removing covers may expose you to dangerous voltage or other hazards.

**Slots and openings** • If the equipment has slots or holes in the enclosure, these are provided to prevent overheating of sensitive components inside. These openings must never be blocked by other objects.

**Lithium battery** • There is a danger of explosion if battery is incorrectly replaced. Replace it only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

### Avertissement

**Alimentations**• Ne faire fonctionner ce matériel qu'avec la source d'alimentation indiquée sur l'appareil. Ce matériel doit être utilisé avec une alimentation principale comportant un fil de terre (neutre). Le troisième contact (de mise à la terre) constitue un dispositif de sécurité : n'essayez pas de la contourner ni de la désactiver.

**Déconnexion de l'alimentation**• Pour mettre le matériel hors tension sans danger, déconnectez tous les cordons d'alimentation de l'arrière de l'appareil ou du module d'alimentation de bureau (s'il est amovible) ou encore de la prise secteur.

**Protection du cordon d'alimentation** • Acheminer les cordons d'alimentation de manière à ce que personne ne risque de marcher dessus et à ce qu'ils ne soient pas écrasés ou pincés par des objets.

**Réparation-maintenance** • Faire exécuter toutes les interventions de réparation-maintenance par un technicien qualifié. Aucun des éléments internes ne peut être réparé par l'utilisateur. Afin d'éviter tout danger d'électrocution, l'utilisateur ne doit pas essayer de procéder lui-même à ces opérations car l'ouverture ou le retrait des couvercles risquent de l'exposer à de hautes tensions et autres dangers.

**Fentes et orifices** • Si le boîtier de l'appareil comporte des fentes ou des orifices, ceux-ci servent à empêcher les composants internes sensibles de surchauffer. Ces ouvertures ne doivent jamais être bloquées par des objets.

**Lithium Batterie** • Il a danger d'explosion s'll y a remplacment incorrect de la batterie. Remplacer uniquement avec une batterie du meme type ou d'un ype equivalent recommande par le constructeur. Mettre au reut les batteries usagees conformement aux instructions du fabricant.

### Vorsicht

**Stromquellen** • Dieses Gerät sollte nur über die auf dem Produkt angegebene Stromquelle betrieben werden. Dieses Gerät wurde für eine Verwendung mit einer Hauptstromleitung mit einem geerdeten (neutralen) Leiter konzipiert. Der dritte Kontakt ist für einen Erdanschluß, und stellt eine Sicherheitsfunktion dar. Diese sollte nicht umgangen oder außer Betrieb gesetzt werden.

**Stromunterbrechung** • Um das Gerät auf sichere Weise vom Netz zu trennen, sollten Sie alle Netzkabel aus der Rückseite des Gerätes, aus der externen Stomversorgung (falls dies möglich ist) oder aus der Wandsteckdose ziehen.

**Schutz des Netzkabels** • Netzkabel sollten stets so verlegt werden, daß sie nicht im Weg liegen und niemand darauf treten kann oder Objekte darauf- oder unmittelbar dagegengestellt werden können.

**Wartung** • Alle Wartungsmaßnahmen sollten nur von qualifiziertem Servicepersonal durchgeführt werden. Die internen Komponenten des Gerätes sind wartungsfrei. Zur Vermeidung eines elektrischen Schocks versuchen Sie in keinem Fall, dieses Gerät selbst öffnen, da beim Entfernen der Abdeckungen die Gefahr eines elektrischen Schlags und/oder andere Gefahren bestehen.

**Schlitze und Öffnungen** • Wenn das Gerät Schlitze oder Löcher im Gehäuse aufweist, dienen diese zur Vermeidung einer Überhitzung der empfindlichen Teile im Inneren. Diese Öffnungen dürfen niemals von anderen Objekten blockiert werden.

**Litium-Batterie** • Explosionsgefahr, falls die Batterie nicht richtig ersetzt wird. Ersetzen Sie verbrauchte Batterien nur durch den gleichen oder einen vergleichbaren Batterietyp, der auch vom Hersteller empfohlen wird. Entsorgen Sie verbrauchte Batterien bitte gemäß den Herstelleranweisungen.

### Advertencia

**Alimentación eléctrica** • Este equipo debe conectarse únicamente a la fuente/tipo de alimentación eléctrica indicada en el mismo. La alimentación eléctrica de este equipo debe provenir de un sistema de distribución general con conductor neutro a tierra. La tercera pata (puesta a tierra) es una medida de seguridad, no puentearia ni eliminaria.

**Desconexión de alimentación eléctrica** • Para desconectar con seguridad la acometida de alimentación eléctrica al equipo, desenchufar todos los cables de alimentación en el panel trasero del equipo, o desenchufar el módulo de alimentación (si fuera independiente), o desenchufar el cable del receptáculo de la pared.

**Protección del cables de alimentación** • Los cables de alimentación eléctrica se deben instalar en lugares donde no sean pisados ni apretados por objetos que se puedan apoyar sobre ellos.

**Reparaciones/mantenimiento** • Solicitar siempre los servicios técnicos de personal calificado. En el interior no hay partes a las que el usuario deba acceder. Para evitar riesgo de electrocución, no intentar personalmente la reparación/mantenimiento de este equipo, ya que al abrir o extraer las tapas puede quedar expuesto a voltajes peligrosos u otros riesgos.

**Ranuras y aberturas** • Si el equipo posee ranuras o orificios en su caja/alojamiento, es para evitar el sobrecalientamiento de componentes internos sensibles. Estas aberturas nunca se deben obstruir con otros objetos.

**Batería de litio** • Existe riesgo de explosión si esta batería se coloca en la posición incorrecta. Cambiar esta batería únicamente con el mismo tipo (o su equivalente) recomendado por el fabricante. Desachar las baterías usadas siguiendo las instrucciones del fabricante.

# FCC Class A Notice

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

Note: This unit was tested with shielded cables on the peripheral devices. Shielded cables must be used with the unit to ensure compliance.

# Extron's Warranty

Extron Electronics warrants this product against defects in materials and workmanship for a period of three years from the date of purchase. In the event of malfunction during the warranty period attributable directly to faulty workmanship and/or materials, Extron Electronics will, at its option, repair or replace said products or components, to whatever extent it shall deem necessary to restore said product to proper operating condition, provided that it is returned within the warranty period, with proof of purchase and description of malfunction to:

**USA, Canada, South America, and Central America:**

Extron Electronics
1230 South Lewis Street
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**Europe, Africa, and the Middle East:**

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Singapore 368363

**Japan:**

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Daisan DMJ Bldg. 6F,
3-9-1 Kudan Minami
Chiyoda-ku, Tokyo 102-0074
Japan

This Limited Warranty does not apply if the fault has been caused by misuse, improper handling care, electrical or mechanical abuse, abnormal operating conditions or non-Extron authorized modification to the product.

***If it has been determined that the product is defective, please call Extron and ask for an Applications Engineer at (714) 491-1500 (USA), 31.33.453.4040 (Europe), 65.6383.4400 (Asia), or 81.3.3511.7655 (Japan) to receive an RA# (Return Authorization number). This will begin the repair process as quickly as possible.***

Units must be returned insured, with shipping charges prepaid. If not insured, you assume the risk of loss or damage during shipment. Returned units must include the serial number and a description of the problem, as well as the name of the person to contact in case there are any questions.

Extron Electronics makes no further warranties either expressed or implied with respect to the product and its quality, performance, merchantability, or fitness for any particular use. In no event will Extron Electronics be liable for direct, indirect, or consequential damages resulting from any defect in this product even if Extron Electronics has been advised of such damage.

Please note that laws vary from state to state and country to country, and that some provisions of this warranty may not apply to you.

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# Chapter One

## Introduction

About this Manual

About the SW2 VGA DA2 AF R

Features

## About this Manual

This manual contains information about Extron's SW2 VGA DA2 AF R switcher and details on how to operate and configure it.

## About the SW2 VGA DA2 AF R

The SW2 VGA DA2 AF R is a full rack width two-input VGA switcher with two buffered outputs and 300 MHz (-3dB) video bandwidth. It accepts two VGA, SVGA, XGA, or UXGA computer-video and two stereo audio inputs. It also features two buffered VGA outputs and one stereo audio output. With an optional Macintosh/VGA adapter, the SW2 VGA DA2 AF R can also switch and distribute Macintosh signals.

Front panel buttons, a contact closure controller, or the auto-switching option can be used for input selection.

## Features

**Auto-switching ability** — The SW2 VGA DA2 AF R can detect active sync signals and automatically switch to the active input.

**Furniture mountability** — The SW2 VGA DA2 AF R can be mounted under a desk or podium with optional hardware, or it can be mounted in a rack or through a desk or other furniture with included vertical mounting brackets.

**Stereo audio** — Unbalanced stereo audio inputs can be output as balanced or unbalanced stereo audio.

**AC power connector** — International 100 to 240VAC, 50/60 Hz, internal switchable power supply.

**Pass-through connectors** — A wide assortment of architectural adapter plates is available for installation on the SW2 VGA DA2 AF R switcher to allow convenient pass-through A/V connections.





# Chapter Two

# Installation and Operation

Installation Overview

Installing Adapter Plates

Mounting the SW2 VGA DA2 AF R

Front Panel Features

Rear Panel Features

Cabling

Operation

## Installation Overview

To install and set up the SW2 VGA DA2 AF R for operation, follow these steps:

1. Turn all of the equipment off. Make sure that the video and audio sources (computers, stereos, tape decks or other devices), the SW2 VGA DA2 AF R, the output devices (projectors, speakers), and contact closure control device are all turned off and disconnected from the power source.
2. Install optional adapter plates for pass-through A/V connections. See "Installing Adapter Plates" in this chapter.
3. Mount the switcher. See "Mounting the SW2 VGA DA2 AF R" in this chapter.
4. Attach the cables. See "Cabling" in this chapter.
5. Connect power cords and turn on the devices in the following order: output devices, contact closure controller, SW2 VGA DA2 AF R switcher, and input devices.
6. Select an input from the front panel buttons or the contact closure controller.
7. The image should now display, and sound should be audible. If not, ensure that all devices are plugged in and receiving power. Check the cabling and make adjustments as needed. Select a different input to check for a picture and sound. See "Troubleshooting" in this chapter.

## Installing Adapter Plates

The SW2 VGA DA2 AF R offers the ability to incorporate a variety of optional architectural adapter plates for pass-through audio and/or video connections. Each interface can hold up to two (2) adapter plates.

Blank plates (two double height plates) are included with the interface to cover unused spaces. Other adapter plates must be ordered separately.

The plates attach to the front and rear panels. Output cables attached to the front panel adapter plate pass through the switcher enclosure and out through the rear panel adapter plate. Some adapters require wires to be soldered to the rear connectors.

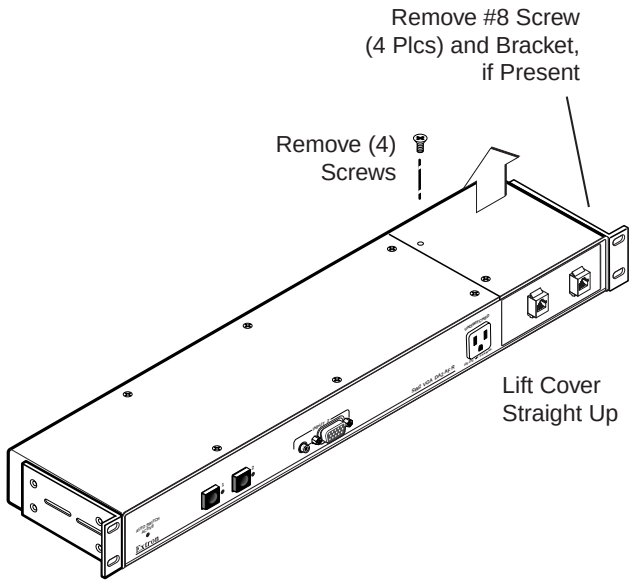
Adapter plates should be attached to the switcher and output cables attached to the plates before the switcher is installed in a rack or in furniture. The screws for installing the adapter plates are built into the plates, so no additional screws will be needed.

**WARNING** *Adapter plate installation must be performed by authorized service personnel only.*

Follow these steps to install adapter plates.

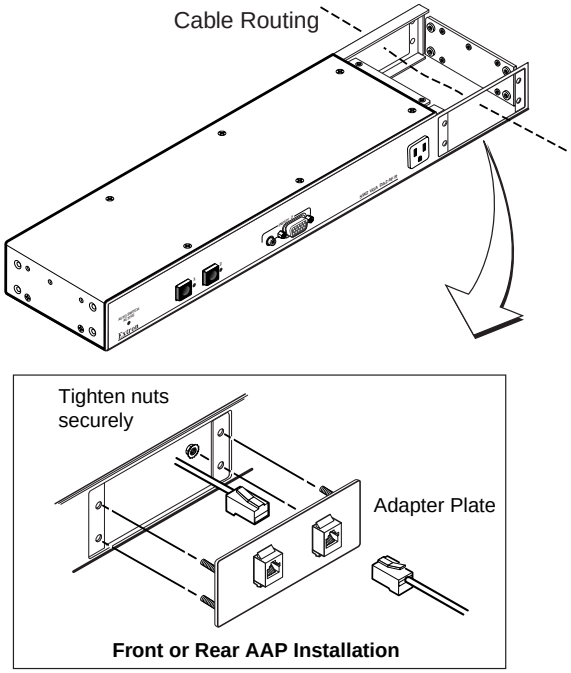
1. Make sure that the power is removed from the switcher by disconnecting the AC power cord from the unit.
2. Open the cover of the switcher (the top half of the enclosure), as shown below. Remove the screws from the enclosure, and lift the cover straight up.

**WARNING** *Do not touch any switches or electronic components inside the switcher. Doing so could damage the switcher.*




***Opening the switcher cover***

3. Remove the blank plate from the switcher by unscrewing the nuts that fasten the plate to the inside of the enclosure.
4. Insert the adapter plate screws through the holes in the front and/or rear panel, as shown in the following illustration. Attach the adapter plate(s) to the enclosure with the provided captive washers and #4-40 nuts.
5. Attach the adapter plate cables to the rear connectors of the adapter plates. Soldering will be required for some connectors.




***Routing adapter output cables and attaching adapter plate***

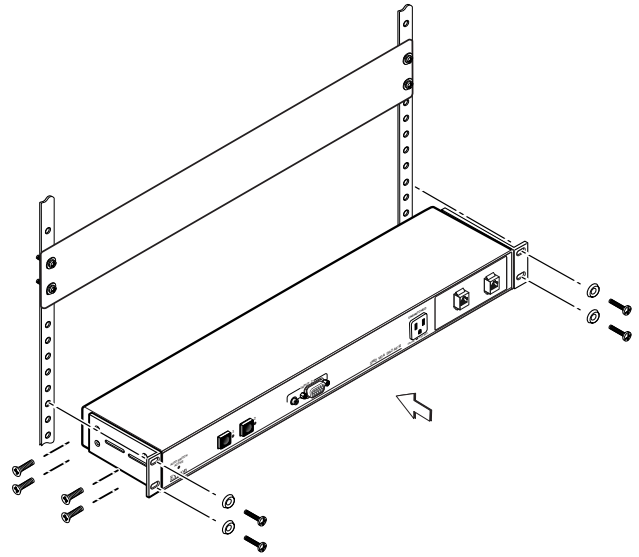
6. Replace the top cover on the switcher, and fasten it with the screws removed in step 2.

## Mounting the SW2 VGA DA2 AF R

When mounting the switcher, take cabling and power availability into consideration. Select either rack or through-desk mounting using the included mounting kit, or select under-desk mounting using the optional mounting kit. Follow the appropriate installation guide on the following pages.

### Rack mounting

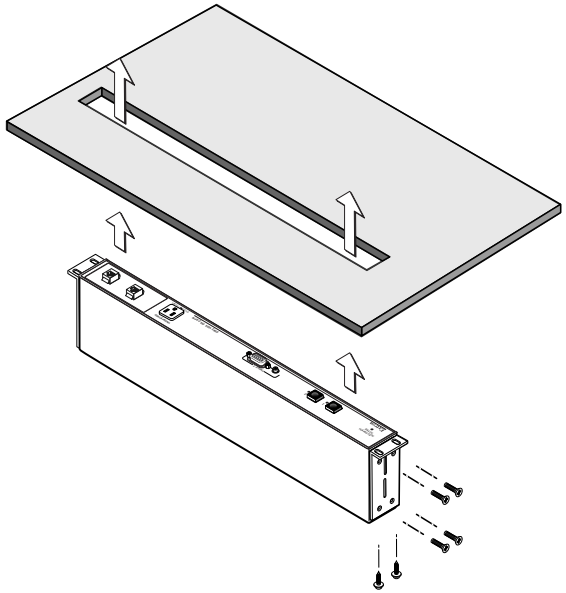
1. Attach the through-desk/rack mounting brackets to the switcher with the provided machine screws, as shown in the following illustration.
2. Attach the switcher to the rack with the provided machine screws.



***Rack mounting***

### Through-desk mounting

1. Attach the through-desk mounting brackets to the switcher with the provided machine screws.
2. Hold the switcher with attached brackets against the underside of the mounting surface of the desk or table. With a soft pencil mark the location of holes for screws on the desk. Mark the opening, approximately 17.63" x 1.88" (44.77 cm x 4.76 cm).
3. Cut out the material from the installation area with a jigsaw. Check the opening size by inserting the switcher part way through the hole. If needed, use a saw, file or sandpaper to enlarge the hole. Smooth the edges of the hole with sandpaper.
4. Drill 1/4" (6.4 mm) deep, 3/32" (2.38 mm) diameter pilot holes in the desk or table at the marked screw locations. The holes should be drilled from the underside or inside (concealed side) of the furniture, where the switcher will be located.
5. Attach the switcher to the desk with the provided wood screws, as shown in the following illustration.

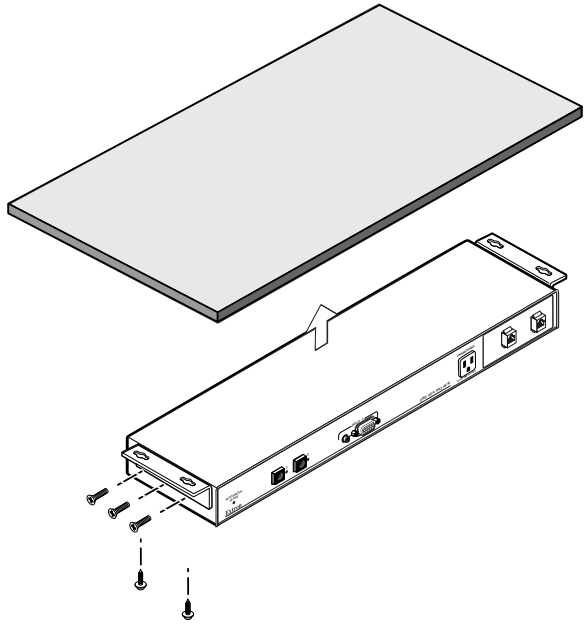


*Through-desk mounting*

To adjust the height of the switcher within the desk, slightly loosen the screws that attach the brackets to the switcher, adjust the height by sliding the switcher up or down, and retighten the screws.

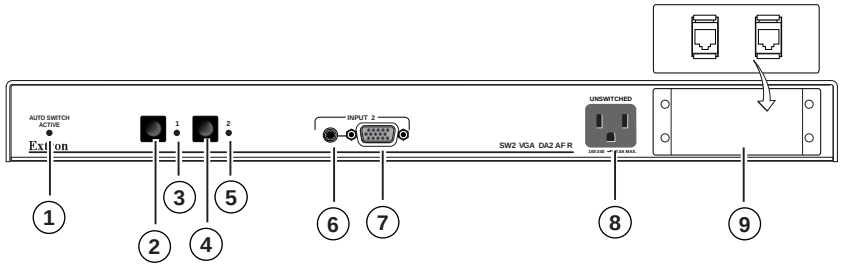
## Under-desk mounting

1. Attach the under-desk mounting brackets to the SW2 VGA DA2 AF R with the six provided machine screws, as shown in the under-desk mounting diagram.
2. Hold the switcher with attached brackets against the mounting surface. Use a soft pencil to mark the location of holes for screws on the desk or other furniture.
3. Drill 1/4" (6.4 mm) deep, 3/32" (2.38 mm) diameter pilot holes in the table or desk at the marked screw locations from the underside/inside (concealed side) of the furniture, where the switcher will be located.
4. Attach the switcher to the desk with the provided wood screws, as shown in the following illustration.



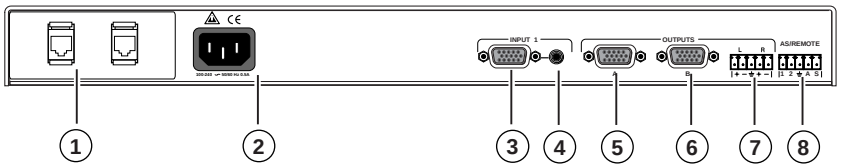
*Under-desk mounting*

## Front Panel Features



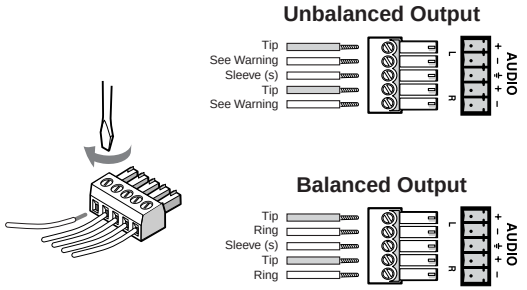

1. **Auto-switching indicator LED** — This LED lights when the auto-switching feature is active.
2. **Input 1 selection switch** — Selects input 1
3. **Input 1 indicator LED** — This lights when input 1 is active.
4. **Input 2 selection switch** — Selects input 2
5. **Input 2 indicator LED** — This lights when input 2 is active.
6. **Input 2 audio** — 3.5 mm female audio jack
7. **Input 2 video** — 15-pin HD female VGA connector
8. **AC power output connector** — An unswitched standard IEC AC power connector allows you to connect a peripheral device that requires power.
9. **Optional architectural adapter plates** — Up to two adapter plates for pass-through audio/video connections can be attached at one time to the switcher. See the "Installing Adapter Plates" section in this chapter for installation instructions.

## Rear Panel Features




1. **Cable access opening** — Cables attached to the A/V pass-through architectural adapter plates exit the enclosure here.
2. **AC power input connector** — Connect a standard IEC AC power cord here for power input (100VAC to 120VAC, 50/60 Hz).
3. **Input 1 video** — 15-pin HD female VGA connector (Input 2 video is located on the front panel.)
4. **Input 1 audio** — 3.5 mm female audio jack (Input 2 audio is located on the front panel.)
5. **Output A** — 15-pin HD female VGA connector
6. **Output B** — 15-pin HD female VGA connector
7. **Stereo audio output connector** — Balanced or unbalanced audio can be output via this 3.5 mm, 5-pole captive screw connector. The audio output cable should be wired as shown below.

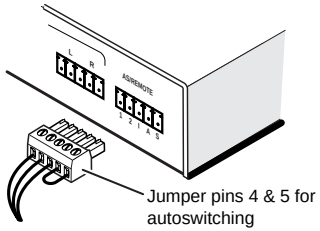
**WARNING** *Connect the sleeve to ground (GND). Connecting the sleeve to a negative (-) terminal will damage the audio output circuits.*




***Wiring the audio output connector***

(8) **Autoswitching/Contact closure connector (AS/REMOTE)** — Connect a contact closure control device to the left three pins of this 3.5 mm, 5-pole captive screw connector.

- **Pin 1** selects input 1 when connected to ground.
- **Pin 2** selects input 2 when connected to ground.
- **Pin 3** connects to the ground wire.




**Contact Closure Control**

- **Pins 4 and 5** if jumpered/shorted together will turn the **auto-switching mode** on. When the auto-switching mode is on, the switcher automatically switches to the input that has an active sync signal.

  If both inputs have an active sync signal present, the highest input, input 2, will be used, and the input 2 indicator LED will light. If no active sync signal is present, neither input indicator LED will light.

**NOTE** *Auto-switching overrides manual input selection. If auto-switching is on, contact closure and front panel input selection will be disabled.*

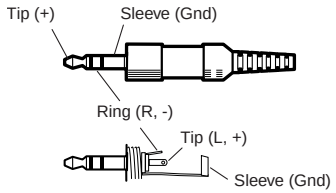
- If pins 4 and 5 are not connected, **manual switching** is enabled. Selections can be made via the front panel selection switches and the contact closure device.

  If no active sync signal is present, the input 2 indicator LED will still light.

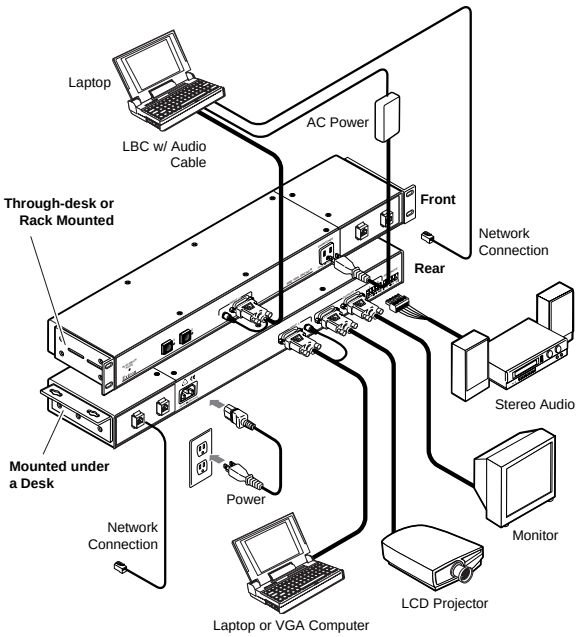
## Cabling

Attach cables to the switcher as detailed in the steps below. The diagram in this section shows how the system looks when cabling is finished.

1. Attach the VGA/SVGA/XGA computers' output cables to the switcher via the 15-pin HD female input connectors. If the computers will provide the audio input, VGA with audio combination cables, such as the Extron VGA HRA series (#26-490-01 to #26-490-04), can be used.
2. Connect the cables from the stereo audio sources (computers or other devices such as CD players or tape decks) to the audio input jacks. The audio plug should be wired as shown below.




3. Connect VGA cables from the switcher's 15-pin HD female output connectors to the display devices (projectors, monitors).
4. Connect the speakers' or other audio output device's cable to the switcher's audio output captive screw connector.
5. Attach the contact closure device to the left three pins of the 5-pole captive screw AS/REMOTE connector.
6. Connect power cords and turn on the devices in the following order: display and audio output devices (projectors, monitors, speakers), contact closure controller, SW2 VGA DA2 AF R switcher, and input devices (computers, audio sources).




***A typical SW2 VGA DA2 AF R installation***

## Operation

1. Make sure that all the input and output devices and the switcher are powered on.
2. If the switcher is in manual switching mode, select an input from the front panel buttons or by using the contact closure controller.
3. If the switcher is in auto-switching mode (rear panel AS/REMOTE pins 4 and 5 are jumpered together), the switcher will automatically select the highest numbered input with an active sync signal.
4. The image should now appear on screen, and sound from the audio source should be audible.

## Troubleshooting

**If the image does not appear or there is no sound**

1. Ensure that all devices are plugged in to a power source.
2. Make sure that each device is receiving power.

   If the switcher is in manual switch mode, one of the input indicator LEDs should light on the front panel of the SW2 VGA DA2 AF R. If the switcher is in auto-switching mode and there is no active incoming sync signal detected, the input indicator LEDs will not light. However, the auto-switching indicator LED should light when the auto-switching mode is on. If no LED lights, check to make sure the power connector is properly wired and neither conductor is connected to the middle pole.
3. Check the cabling and the audio connector wiring, and make adjustments as needed.
4. Select a different input to check for a display and sound.





# A Appendix

## Specifications, Accessories and Part Numbers

Specifications

Included Parts

Accessories

Cables

Adapter

Adapter Plates

# Specifications

## Video

| | |
|---|---|
| Gain | Unity |
| Bandwidth | 300 MHz (-3dB) |

## Video input

| | |
|---|---|
| Number/signal type | 2 VGA-UXGA RGBHV, RGBS, RGsB*, RsGsBs* |
| Connectors | 2 VGA 15-pin HD female |
| Nominal level | 0.7V p-p for RGB (excluding sync) |
| Minimum/maximum levels | Analog ..... 0.3V to 1.5V p-p with no offset |
| Impedance | 75 ohms |
| Horizontal frequency | 15 kHz to 145 kHz |
| Vertical frequency | 30 Hz to 170 Hz |

## Video output

| | |
|---|---|
| Number/signal type | 2 buffered VGA-UXGA RGBHV, RGBS, RGsB*, RsGsBs* |
| Connectors | 2 VGA 15-pin HD female |
| Nominal level | 0.7V p-p for RGB (excluding sync) |
| Minimum/maximum levels | 0.3V to 1.5V p-p |
| Impedance | 75 ohms |

**NOTE** **RGsB and RsGsBs inputs and outputs will work in manual mode only. Autoswitching requires TTL level sync on pin 13 of the 15-pin HD connector.*

## Sync

| | |
|---|---|
| Input type | RGBHV, RGBS, RGsB*, RsGsBs* |
| Output type | RGBHV, RGBS, RGsB*, RsGsBs* |
| Input level | 2.5V to 5.0V p-p |
| Output level | TTL: 5.0V p-p, unterminated |
| Input impedance | High Z |
| Output impedance | 75 ohms |
| Max. input voltage | 5.0V p-p |
| Polarity | Positive or negative (follows input) |

## Audio

| | |
|---|---|
| Gain | Wired for unbalanced output: 0dB; balanced output: +6dB |
| Frequency response | 20 Hz to 20 kHz, ±0.05dB |
| THD + Noise | 0.03% @ 1 kHz at nominal level |
| S/N | >90dB at rated maximum output |
| Crosstalk | <-65dB @ 20 kHz, <-80dB @ 1 kHz and below 60 Hz |
| Stereo channel separation | >80dB @ 1 kHz |
| CMRR | >75dB @ 20 Hz to 20 kHz |

## Audio input

| | |
|---|---|
| Number/signal type | 2 stereo, unbalanced |
| Connectors | (2) 3.5 mm female stereo jacks |
| Impedance | >50 kohms unbalanced, >25 kohms balanced, DC coupled |
| Nominal level | -10dBV (316 mV) |
| Maximum level | +19.5dBu, (balanced or unbalanced) at 1%THD+N |

## Audio output

| | |
|---|---|
| Number/signal type | 1 stereo, balanced/unbalanced |
| Connectors | (1) 3.5 mm captive screw connector, 5 pole |
| Impedance | 50 ohms unbalanced, 100 ohms balanced |
| Nominal level | -2dBV (632 mV) balanced output |
| Gain error | ±0.1dB channel to channel |
| Maximum level (Hi-Z) | >+21dBu, balanced or unbalanced at 1% THD+N |
| Maximum level (600 ohm) | >+15dBm, balanced or unbalanced at 1% THD+N |

**NOTE** *0dBV = 1 volt (RMS).*

## Control/remote — switcher

| | |
|---|---|
| Contact closure | Momentary |
| Contact closure pin configurations | 1 = Input #1, 2 = Input #2 |
| Loop signal | Momentary low, 250 µS |

## General

| | |
|---|---|
| Power | 100VAC to 120VAC, 50/60 Hz, 12 watts, internal, auto-switchable |
| Temperature/humidity | Storage -40° to +158°F (-40° to +70°C) / 10% to 90%, non-condensing<br>Operating +32° to +122°F (0° to +50°C) / 10% to 90%, non-condensing |
| Rack mount | Yes, with included brackets, and furniture mountable with optional brackets |

| | |
|---|---|
| Enclosure type | Metal |
| Enclosure dimensions | 1.75″ H x 17.5″ W x 4.5″ D (1U high, full rack width)<br>4.4 cm H x 44.5 cm W x 11.4 cm D (Depth excludes connectors.) |
| Product weight | 2.6 lbs (1.2 kg) |
| Shipping weight | 7 lbs (3.2 kg) |
| Vibration | ISTA/NSTA 1A in carton (International Safe Transit Association) |
| Listings | UL, CUL |
| Compliances | CE, FCC Class A |
| MTBF | 30,000 hours |
| Warranty | 3 years parts and labor |

**NOTE** *Specifications are subject to change without notice.*

## Included Parts

Each order for the SW2 VGA DA2 AF R includes the following items:

| Included parts |
|---|
| SW2 VGA DA2 AF R |
| Rack mounting bracket kit |
| Two-space blank AAP |
| (2) 3.5 mm, 5-pole captive screw connectors |
| (2) Rack ears |

## Accessories

| Accessories | Part number |
|---|---|
| Through-desk mounting bracket kit | 70-077-02 |
| Under-desk mounting bracket kit | 70-222-01 |

## Cables

| Male-to-female VGA cables w/audio | Part number |
|---|---|
| VGA M3′ MHRA | 26-490-01 |
| VGA M6′ MHRA | 26-490-02 |
| VGA M12′ MHRA | 26-490-03 |
| VGA M25′ MHRA | 26-490-04 |
| VGA M50′ MHRA | 26-490-05 |

## Adapters

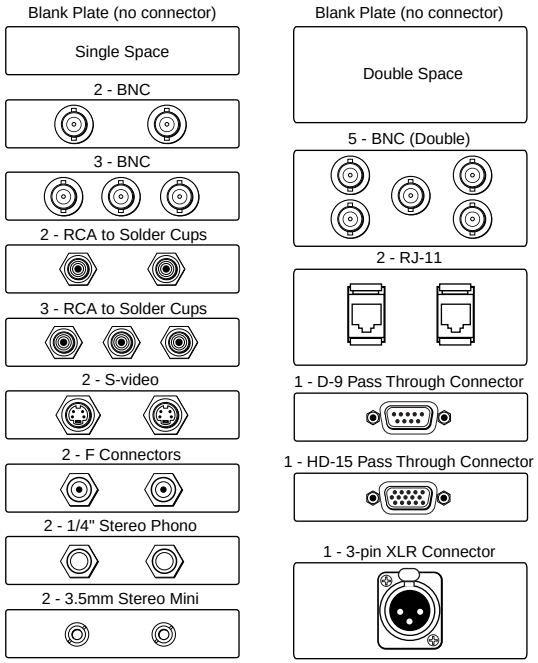
| Adapters | Part number |
|---|---|
| Mac/VGA adapter | 26-340-01 |
| Mac HV/VGA adapter | 26-340-02 |
| SY-VGA/XGA (15-pin HD VGA male to 5 BNC male) | 26-173-01 |
| SY 15 HDM-RGBHVF (15-pin HD VGA male to 5 BNC female) | 26-397-01 |

## Adapter Plates

A variety of optional architectural adapter plates for pass-through connections may be ordered for the switcher. The SW2 VGA DA2 AF R can hold up to two (2) adapter plates. The following configurations of adapters could be installed in either interface:

- two adapter plates with a “plate size” of one, or
- one adapter plate of plate size two.

The tables on the following pages list the available adapter plates.


Blank Plate (no connector)
Single Space
2 - BNC
3 - BNC
2 - RCA to Solder Cups
3 - RCA to Solder Cups
2 - S-video
2 - F Connectors
2 - 1/4" Stereo Phono
2 - 3.5mm Stereo Mini
Blank Plate (no connector)
Double Space
5 - BNC (Double)
2 - RJ-11
1 - D-9 Pass Through Connector
1 - HD-15 Pass Through Connector
1 - 3-pin XLR Connector

**Multi Type Connector Architectural Adapter Plates**

| Adapter plate description | Plate size | Front connector type | Rear connector type | Part # | Gray | Black | White |
|---|---|---|---|---|---|---|---|
| 1 S-video female and 1 BNC female | 1 | 4-pin mini DIN female and BNC female | 4-pin mini DIN female and BNC female | 70-107 | -01 | -02 | -03 |
| 1 S-video female and 3 RCA female | 2 | 4-pin mini DIN female and RCA female | 4-pin mini DIN female and RCA female | 70-107 | -02 | -12 | -22 |
| 1 S-video female and 2 RCA female | 1 | 4-pin mini DIN female and RCA female | 4-pin mini DIN female and RCA female | 70-107 | -03 | -13 | -23 |
| 1 BNC female and 2 RCA female | 1 | BNC female and RCA female | BNC female and RCA female | 70-108 | -01 | -11 | -21 |
| 1 BNC female and 1 3.5mm mini stereo jack | 1 | BNC female and 3.5mm mini stereo jack | BNC female and 3 solder cups | 70-108 | -02 | -12 | -22 |
| 1 RCA female and 1 3.5mm mini stereo jack | 1 | RCA female and 3.5mm mini stereo jack | RCA female and 3 solder cups | 70-109 | -01 | -02 | -03 |

## Single Type Connector Architectural Adapter Plates

| Adapter plate description | Plate size | Front connector type | Rear connector type | Part # | Gray | Black | White |
|---|---|---|---|---|---|---|---|
| Blank plate 1 | 1 | n.a. | n.a. | 70-090 | -01 | -11 | -21 |
| Blank plate 2 | 2 | n.a. | n.a. | 70-090 | -02 | -12 | -22 |
| 2 BNC barrel (female to female) | 1 | BNC female | BNC female | 70-091 | -01 | -11 | -21 |
| 3 BNC barrel (female to female) | 1 | BNC female | BNC female | 70-091 | -02 | -12 | -22 |
| 5 BNC barrel (female to female) | 2 | BNC female | BNC female | 70-091 | -03 | -13 | -23 |
| 2 RCA female to solder cups | 1 | RCA female (red/black) | solder lug terminals | 70-092 | -01 | -11 | -21 |
| 3 RCA female to solder cups | 1 | RCA female (red/black) | solder lug terminals | 70-092 | -02 | -12 | -22 |
| 2 RCA female barrel (female to female) | 1 | RCA female (red/black) | RCA female | 70-093 | -01 | -11 | -21 |
| 3 RCA female barrel (female to female) | 1 | RCA female (red/black) | RCA female | 70-093 | -02 | -12 | -22 |
| 2 RCA to BNC barrel (female to female) | 1 | RCA female (red/black) | BNC female | 70-094 | -01 | -11 | -21 |
| 3 RCA to BNC barrel (female to female) | 1 | RCA female (red/black) | BNC female | 70-094 | -02 | -12 | -22 |
| 2 S-video to S-video barrel (female to female) | 1 | 4-pin mini DIN female | 4-pin mini DIN female | 70-095 | -01 | -11 | -21 |
| 2 F connector barrel | 1 | F connector female | F connector female | 70-096 | -01 | -11 | -21 |
| 2 ¼" stereo phono female | 1 | ¼" stereo phono female | 3 solder lug terminals | 70-097 | -01 | -11 | -21 |
| 2 ¼" mono phono female | 1 | ¼" mono phono female | 2 solder lug terminals | 70-097 | -02 | -12 | -22 |
| 2 3.5mm mini stereo female | 1 | 3.5mm mini stereo female | 3 solder lug terminals | 70-098 | -01 | -11 | -21 |
| 2 RJ-11 (female to female) | 2 | RJ-11 female | RJ-11 female | 70-099 | -01 | -11 | -21 |
| 2 RJ-45 (female to female) | 2 | RJ-45 female | RJ-45 female | 70-100 | -01 | -11 | -21 |
| 1 HD-15 (female to female) | 1 | 15-pin HD female | 15-pin HD female | 70-101 | -01 | -11 | -21 |
| 1 HD-15 (male to male) | 1 | 15-pin HD male | 15-pin HD male | 70-101 | -02 | -12 | -22 |
| 1 D-9 (female to female) | 1 | 9-pin D female | 9-pin D female | 70-102 | -01 | -11 | -21 |
| 1 D-9 (male to male) | 1 | 9-pin D male | 9-pin D male | 70-102 | -02 | -12 | -22 |
| 1 3-pin XLR female | 2 | 3-pin XLR female | 3 solder lug terminals | 70-103 | -01 | -11 | -21 |
| 1 4-pin XLR female | 2 | 4-pin XLR female | 3 solder lug terminals | 70-103 | -02 | -12 | -22 |
| 1 6-pin XLR female | 2 | 6-pin XLR female | 3 solder lug terminals | 70-103 | -03 | -13 | -23 |
| 2 6-pin mini DIN (keyboard/mouse) | 1 | 6-pin mini DIN female | 6-pin mini DIN female | 70-104 | -01 | -11 | -21 |
| 1 3.5mm, 5 pole captive screw terminal | 1 | 3.5mm, 5 pole captive screw terminal | solder cups | 70-105 | -01 | -11 | -21 |
| 2 cable clamps | 2 | pass-through access for cable assemblies | cable clamps | 70-127 | NA | -01 | NA |